

Chapter 4

Citywide Land Use

City-wide Land Use

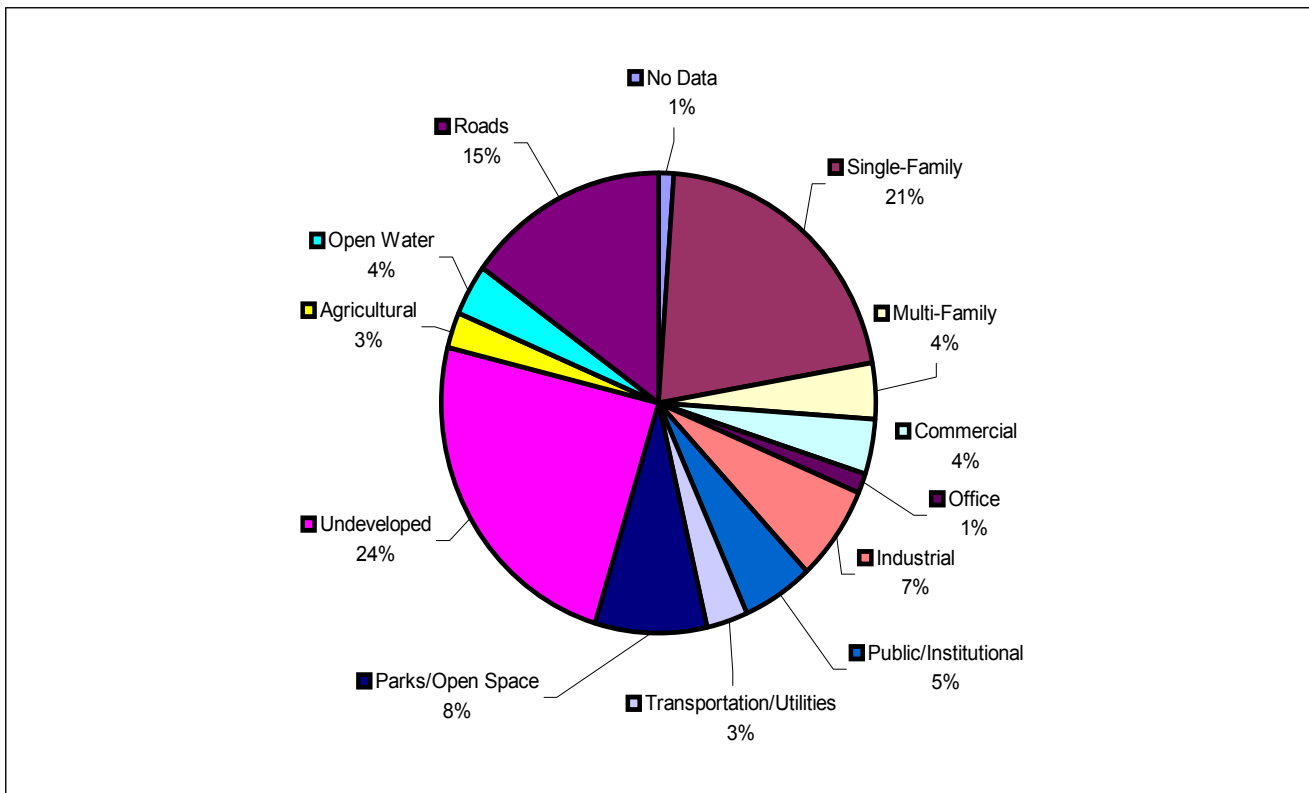
Land Use in 2000

In 2000, the total land area within the city of Houston's incorporated boundaries was 617.5 square miles (395,200 acres). Between 1990 and 2000, the City annexed 36.02 square miles, which is a 6% increase in area (23,053 acres). The largest portion of this annexation is the Kingwood area; other large annexations occurred near Clear Lake and the Addicks reservoir.

family, multi-family, commercial, office, industrial, agricultural, parks and open space, public and institutional, transportation, roads and water. The following graphic illustrates the percentage of land that these uses occupy in the City.

Land uses within the City of Houston is classified according to the following land-use categories: vacant, single-

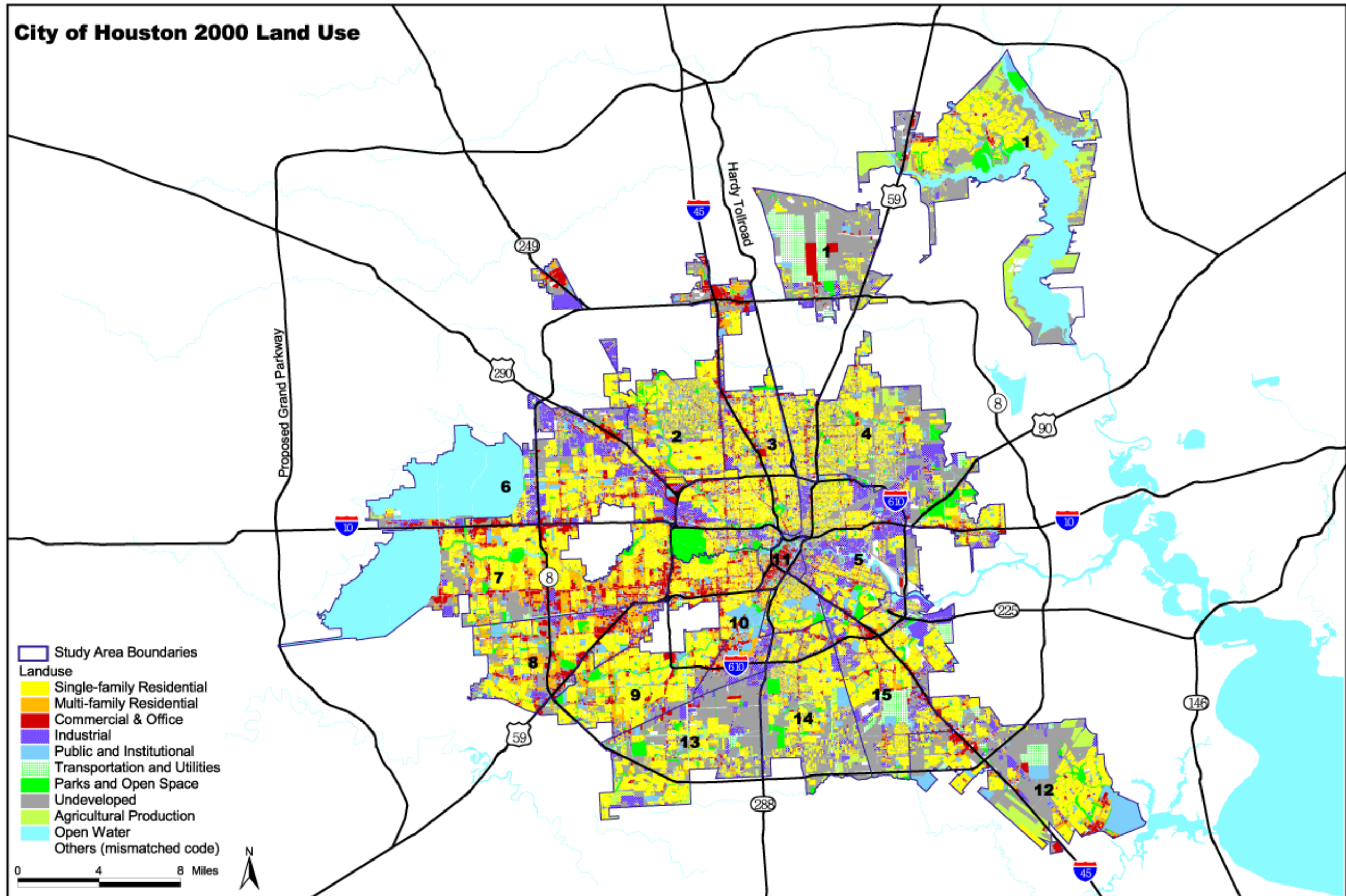
Figure 4.1.
City of Houston 2000 Land Use



Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

Map 4.1.

City of Houston 2000 Land Use



City-wide Land Use

Table 4.1. Land Use by Study Area

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

		No Data	Single-Family	Multi-Family	Commercial	Office	Industrial	Public/ Institutional	Trans/ Utilities	Parks/ Open Space	Undeveloped	Agricultural	Open Water	Roads	Total
Study Area 1	2000 Acreage	1,383	6,340	242	1,046	285	752	958	4,335	2,161	18,171	5,228	12,954	3,890	57,746
	% of SA Total	2.4%	11.0%	0.4%	1.8%	0.5%	1.3%	1.7%	7.5%	3.7%	31.5%	9.1%	22.4%	6.7%	100.0%
Study Area 2	2000 Acreage	207	6,337	1,191	1,429	402	1,688	933	322	1,026	4,889	118	2	3,960	22,506
	% of SA Total	0.9%	28.2%	5.3%	6.3%	1.8%	7.5%	4.1%	1.4%	4.6%	21.7%	0.5%	0.0%	17.6%	100.0%
Study Area 3	2000 Acreage	75	7,149	579	1,391	314	2,187	2,424	182	864	2,630	17	10	5,683	23,504
	% of SA Total	0.3%	30.4%	2.5%	5.9%	1.3%	9.3%	10.3%	0.8%	3.7%	11.2%	0.1%	0.0%	24.2%	100.0%
Study Area 4	2000 Acreage	298	8,282	424	942	89	2,586	1,022	730	1,711	9,721	658	15	5,032	31,510
	% of SA Total	0.9%	26.3%	1.3%	3.0%	0.3%	8.2%	3.2%	2.3%	5.4%	30.9%	2.1%	0.0%	16.0%	100.0%
Study Area 5	2000 Acreage	971	4,915	385	723	94	4,070	1,747	205	742	4,774	0	372	5,372	24,368
	% of SA Total	4.0%	20.2%	1.6%	3.0%	0.4%	16.7%	7.2%	0.8%	3.0%	19.6%	0.0%	1.5%	22.0%	100.0%
Study Area 6	2000 Acreage	290	5,040	1,255	1,194	378	4,409	1,952	406	8,604	8,729	31	0	3,925	36,212
	% of SA Total	0.8%	13.9%	3.5%	3.3%	1.0%	12.2%	5.4%	1.1%	23.8%	24.1%	0.1%	0.0%	10.8%	100.0%
Study Area 7	2000 Acreage	133	8,237	3,722	2,439	1,348	952	1,071	352	11,337	6,958	0	85	4,919	41,553
	% of SA Total	0.3%	19.8%	9.0%	5.9%	3.2%	2.3%	2.6%	0.8%	27.3%	16.7%	0.0%	0.2%	11.8%	100.0%
Study Area 8	2000 Acreage	50	3,936	2,413	1,455	529	1,242	1,315	439	820	2,455	27	0	3,042	17,722
	% of SA Total	0.3%	22.2%	13.6%	8.2%	3.0%	7.0%	7.4%	2.5%	4.6%	13.9%	0.2%	0.0%	17.2%	100.0%
Study Area 9	2000 Acreage	57	5,888	1,321	779	150	353	782	285	994	1,820	5	0	3,207	15,641
	% of SA Total	0.4%	37.6%	8.4%	5.0%	1.0%	2.3%	5.0%	1.8%	6.4%	11.6%	0.0%	0.0%	20.5%	100.0%
Study Area 10	2000 Acreage	61	2,865	1,164	1,030	583	677	1,821	149	363	1,757	0	63	2,845	13,376
	% of SA Total	0.5%	21.4%	8.7%	7.7%	4.4%	5.1%	13.6%	1.1%	2.7%	13.1%	0.0%	0.5%	21.3%	100.0%
Study Area 11	2000 Acreage	14	88	46	297	128	213	286	30	82	453	0	22	1,169	2,827
	% of SA Total	0.5%	3.1%	1.6%	10.5%	4.5%	7.5%	10.1%	1.1%	2.9%	16.0%	0.0%	0.8%	41.3%	100.0%
Study Area 12	2000 Acreage	158	5,675	790	867	300	1,114	3,374	1,283	988	9,480	2,246	0	3,534	29,807
	% of Study Area Total	0.5%	19.0%	2.7%	2.9%	1.0%	3.7%	11.3%	4.3%	3.3%	31.8%	7.5%	0.0%	11.9%	100.0%
Study Area 13	2000 Acreage	145	4,581	173	456	52	1,453	523	574	916	8,457	764	75	2,642	20,811
	% of Study Area Total	0.7%	22.0%	0.8%	2.2%	0.2%	7.0%	2.5%	2.8%	4.4%	40.6%	3.7%	0.4%	12.7%	100.0%
Study Area 14	2000 Acreage	102	4,977	308	401	24	944	935	375	967	6,300	758	0	3,230	19,318
	% of Study Area Total	0.5%	25.8%	1.6%	2.1%	0.1%	4.9%	4.8%	1.9%	5.0%	32.6%	3.9%	0.0%	16.7%	100.0%
Study Area 15	2000 Acreage	530	5,492	637	937	139	3,124	919	2,000	514	4,772	166	308	4,109	23,645
	% of Study Area Total	2.2%	23.2%	2.7%	4.0%	0.6%	13.2%	3.9%	8.5%	2.2%	20.2%	0.7%	1.3%	17.4%	100.0%
Citywide Total		4,473	79,801	14,648	15,386	4,812	25,762	20,061	11,666	32,090	91,367	10,017	13,905	56,559	380,547

City-wide Land Use

Vacant

Vacant and undeveloped land accounts for 1/4th of the total land use in the City. It is the largest single land use classification, followed by Single-family Residential use. Approximately 1/3rd of the City's vacant land is located south of Loop 610 in Study Areas 12, 13, 14, and 15, which together account for 29,008 acres. Study Area 1 in the far northeast has the most vacant land at 18,171 acres.

Single-family Residential

Single-family Residential use accounts for 1/5th of total land in the City. Study Area 11, which includes Downtown, has less than 1% of the total single-family residential land use in the City. At the opposite end of the scale are Study Areas 4 & 7, each of which has slightly over 10% of the total residential land use in the City.

Multi-family Residential

Multi-family Residential use accounts for approximately 4% of total land area in the City. Half of it is in the west in Study Areas 7, 8, and 9.

Office

Office uses account for only 1% of the total land area in the City. However, they generally tend to be in multi-storey buildings or high-rises. More than half of the City's office use is west of Downtown, in Study Area 7, 8, and 10. Study Area 7, which includes the Galleria and the corporate campus settings found along I-10, alone accounts for about 28% of the total office use in the City.

Industrial

Industrial uses account for about 7% of the total land area, and are especially concentrated in the east and north-west portions of the city. Study Areas 5 and 6 together account for 1/3rd of total industrial use in the City. Study Area 5 includes the Port of Houston and related uses, and Study Area 6 includes the US 290 industrial corridor.

Public and Institutional

Public and Institutional uses account for about 5% of the total land area in the City, and are concentrated in the far southeast and within Loop 610. Study Areas 10 & 12 together account for about 1/4th of public/institutional uses in the City. Study Area 10 includes Rice University, the Medical Center, and Reliant Park; and Study Area 12 includes NASA's facilities and parts of Ellington Field.

Parks and Open Space

Parks and Open Space account for about 8% of total land area in the City. More than half of it is in Study Areas 6 and 7.

Agriculture

Agricultural use accounts for about 2.6% of the total land area in the City. Study Area 1 is home to half of the total land in the City devoted to agriculture, followed by Study Area 12. Other Study Areas have only small amounts, if any.

Roads

Roads account for 15% of the total land area in the City. The amount of land devoted to roads varies by Study Area in general proportion to the Study Area's size. Exceptions are the relatively undeveloped Study Area 1 (which includes Lake Houston), and the highly urbanized Study Area 11, which contains downtown.

Transportation and Utilities

Transportation and Utilities account for 3% of the total land area in the City. More than half of this use is in Study Areas 1 and 15, which include Bush Intercontinental and Hobby Airports.

City-wide Land Use Changes 1990-2000

Change in Land Use: 1990 to 2000.

During the last decade, 29,367 acres of vacant land have been absorbed by development. Public-Institutional and Industrial uses have added on about 6,700 and 4,400 acres respectively. Residential land use grew by more than 6,600 acres, of which 4,200 were single-family uses. Commercial and office uses increased by approximately 3,900 acres.

To get a true picture of the intensity of development, building permit data for construction/demolition, and changes in land use based on HCAD (Harris County Appraisal District) records were used.

Table 4.2.
Change in Citywide Land Use: 1990 to 2000

Land Uses	% of Total Land Area	% of Total Land Area	% Change 1990-2000
Single-Family	21.0%	19.9%	5.6%
Multi-Family	3.8%	3.2%	19.5%
Commercial	4.0%	3.2%	25.3%
Office	1.3%	1.1%	19.4%
Industrial	6.8%	5.6%	20.6%
Public and Institutional	4.9%	3.1%	56.2%
Vacant and Undeveloped	24.0%	31.7%	-24.3%
Roads	14.9%	14.9%	0.0%
Other *	19.3%	17.3%	11.8%
Total		100.0%	100.0%

Source: Harris County Appraisal District (HCAD)

Compiled by: City of Houston Planning and Development Department

* Other includes the following land use categories:

Transportation and Utilities, Parks and Open Spaces, Agricultural, Open Water, No Data.

City-wide Land Use by Super Neighborhood

Building Permit Activity (1992 – 2000)

Building permit data for new construction and demolitions between 1992 and 2000 have been analyzed to identify changes in land development patterns in the City (See map). Patterns of development inside Loop 610 are distinctly different from those outside Loop 610. (See table below). Citywide, the trends include:

- *Significant redevelopment occurred within Loop 610, west of Downtown.*

The western half of the area inside Loop 610 experienced significant new development activity, as well as a substantial portion of demolitions indicating redevelopment. This area includes the Main Street Corridor, a series of unique districts connected by the 8-mile long light rail system, scheduled to be operational in January 2004. Of the districts in the Corridor, Midtown has experienced dramatic changes. For example, land values in this neighborhood were in the range of \$2 to \$8 per square foot in 1990. Currently, they are in the range of \$22 to \$42 per square foot.

Other areas that have experienced redevelopment with high concentrations of permits include Montrose, Fourth Ward, and Greater Uptown. This redevelopment is largely residential in nature inside Loop 610, and is accompanied by significant changes in the demographic characteristics of the area (See Chapter 2).

- *New development occurred on the fringes of the City, outside Loop 610 in the west, southwest, and southeast.*

Concentrations of residential development in several other outlying locations are correlated with significant decreases in vacant land between 1990 and 2000, indicating completely new development. Clear Lake, Kingwood, and areas near the Beltway to the south and west all saw increases in permitting activity as well as significant decreases in vacant land.

- *East of downtown, near the ship channel and Highway 90, a significant number of large parcels have shifted from undeveloped to developed status since 1990.*

Permitting in this area has largely been commercial, industrial and institutional.

- *Single-family residential construction accounted for 3/4ths of all permitting activity, followed by permits for commercial uses.*

City-wide Land Use by Super Neighborhood

Table 4.3 below summarizes new construction activity for all Study Areas between 1992 and 2000. Growth and changes in land use were not evenly distributed in the City, since some areas expanded faster than others. Permitting activity was concentrated in several pockets in the City. Table 4.4 on the following page identifies these areas based on very high, high, moderate and low concentrations of building permits for new construction between 1992 and 2000.

Table 4.3.
Building Permits for New Construction: 1992-2000

STUDY AREA	Single-family	Multi-family	No. of Multi-family Units	Commercial	Institutional	Industrial	Total
SA1	1,475	59	2,151	158	26	27	1,745
SA2	937	115	2,320	300	113	37	1,502
SA3	2,749	141	3,178	416	91	43	3,440
SA4	857	123	1,569	201	95	34	1,310
SA5	830	55	1,543	283	105	53	1,326
SA6	1,171	140	2,460	541	90	131	2,073
SA7	4,026	579	13,212	702	123	20	5,450
SA8	486	32	712	342	81	17	958
SA9	1,294	74	1,350	174	73	13	1,628
SA10	3,354	477	8,789	387	79	8	4,305
SA11	1,056	96	3,118	84	1	1	1,238
SA12	3,600	26	677	212	74	17	3,929
SA13	2,075	6	84	113	73	3	2,270
SA14	452	84	1,360	93	45	5	679
SA15	820	3	24	272	67	59	1,221
City	25,182	2,010	42,547	4,278	1,136	468	33,074

Source: City of Houston Planning and Development Department

City-wide Land Use by Super Neighborhood

Table 4.4.
Concentrations of Building Permits: 1992-2000

Permits/Sq. Mile	Study Areas	Concentrations
<i>Very High</i>	Study Area 10 Study Area 12 Study Area 3 Study Area 11	Inner Loop: South of Buffalo Bayou and East of Shepherd South of Ellington Field in Clear Lake Inner Loop: West of Shepherd and North of Buffalo Bayou Midtown & Fourth Ward
<i>High</i>	Study Area 9 Study Area 7 Study Area 12 Study Area 13	Southwest: W. Airport, Riceville and S. Gessner West: Alief Clodine and Dairy Ashford, and North: Eldridge Parkway and Briar Forest Drive. Along Blackhawk Blvd between Fuqua St. and Beltway 8. Fort Bend: Mchard and Hiram Clark
<i>Moderate</i>	Study Area 2 Study Area 15 Study Area 6 Study Area 1	North: South of W. Gulf Bank and T.C. Jester South of Hobby Airport and Fuqua West: Tanner and Gessner roads Kingwood: Kingwood Rd and Mills Branch
<i>Low</i>	Study Area 4 Study Area 8 Study Area 14 Study Area 5	All Super Neighborhoods All Super Neighborhoods All Super Neighborhoods All Super Neighborhoods

Source: City of Houston Planning and Development Department

City-wide Land Use by Super Neighborhood

Demolition Permits: 1992-2000

Between 1992 and 2000 approximately 13,000 demolition permits were issued for locations throughout the City of Houston (see table below). The vast majority of these were for locations inside Loop 610. Residential structures account for 92% of all demolition permits, resulting in loss of 11,089 buildings that correspond to 18,022 housing units.

Neighborhoods with the highest concentrations of demolitions include Greater Third Ward, Fourth Ward, Montrose, Greater Fifth Ward, and Memorial Park/Washington Avenue. Other neighborhoods that also had a substantial number of demolitions include Greater Uptown, Braeswood Place, Sunnyside, and Independence Heights.

Table 4.5.
Demolition Permits by Study Area: 1992-2000

	Single-Family						Multi-family		Other	
	One-family		Two-Family		Three & Four family		Five or more family			
	Units	Buildings	Units	Buildings	Units	Buildings	Units	Buildings	Units	Buildings
SA 1	126	126	-	-	-	-	44	8	16	25
SA 2	517	518	2	1	-	-	574	41	52	68
SA 3	1,719	1,719	9	5	4	1	396	62	232	269
SA 4	1,011	1,024	2	1	8	2	236	35	111	133
SA 5	2,491	2,484	20	10	23	6	1,284	190	328	359
SA 6	269	266	2	1	-	-	561	68	71	80
SA 7	689	677	-	-	-	-	638	30	137	164
SA 8	62	62	-	-	8	2	267	27	38	47
SA 9	303	304	-	-	-	-	257	111	64	81
SA 10	1,175	1,173	8	5	-	-	1,952	220	369	296
SA 11	448	444	8	4	-	-	1,064	95	107	128
SA 12	32	32	-	-	-	-	-	-	33	37
SA 13	82	82	-	-	-	-	-	-	26	20
SA 14	753	754	10	5	-	-	154	25	59	63
SA 15	497	497	2	1	8	2	214	32	208	104
City	10,174	10,162	63	33	51	13	7,641	944	1,851	1,874

Source: City of Houston Planning and Development Department

Citywide trends for demolitions include:

- In neighborhoods east of downtown, concentrations of residential demolitions are not offset by concentrations of new residential construction (Fifth Ward, Third Ward), indicating a loss of housing stock in these neighborhoods.
- In neighborhoods west of Downtown, (Midtown, Fourth Ward, Montrose, and Memorial Park/Washington Avenue), pockets of demolitions overlap with that of new construction, indicating redevelopment.
- Super Neighborhoods inside Loop 610 accounted for increasingly higher number of demolition permits every year in the last decade, as compared to those outside Loop 610, (See table below).

Table 4.6.
Demolition Permits by Location: 1992-2000

Year	# Located Inside Loop	% of Total	# Located Outside Loop	% of Total	Total
1992	834	56%	661	44%	1,495
1993	1,193	58%	857	42%	2,050
1994	74	53%	65	47%	139
1995	881	58%	650	42%	1,531
1996	1,068	60%	715	40%	1,783
1997	1,003	61%	631	39%	1,634
1998	1,128	63%	657	37%	1,785
1999	908	63%	538	37%	1,446
2000	670	68%	316	32%	986
TOTAL	7,759	60%	5,090	40%	12,849

Source: City of Houston Planning and Development Department

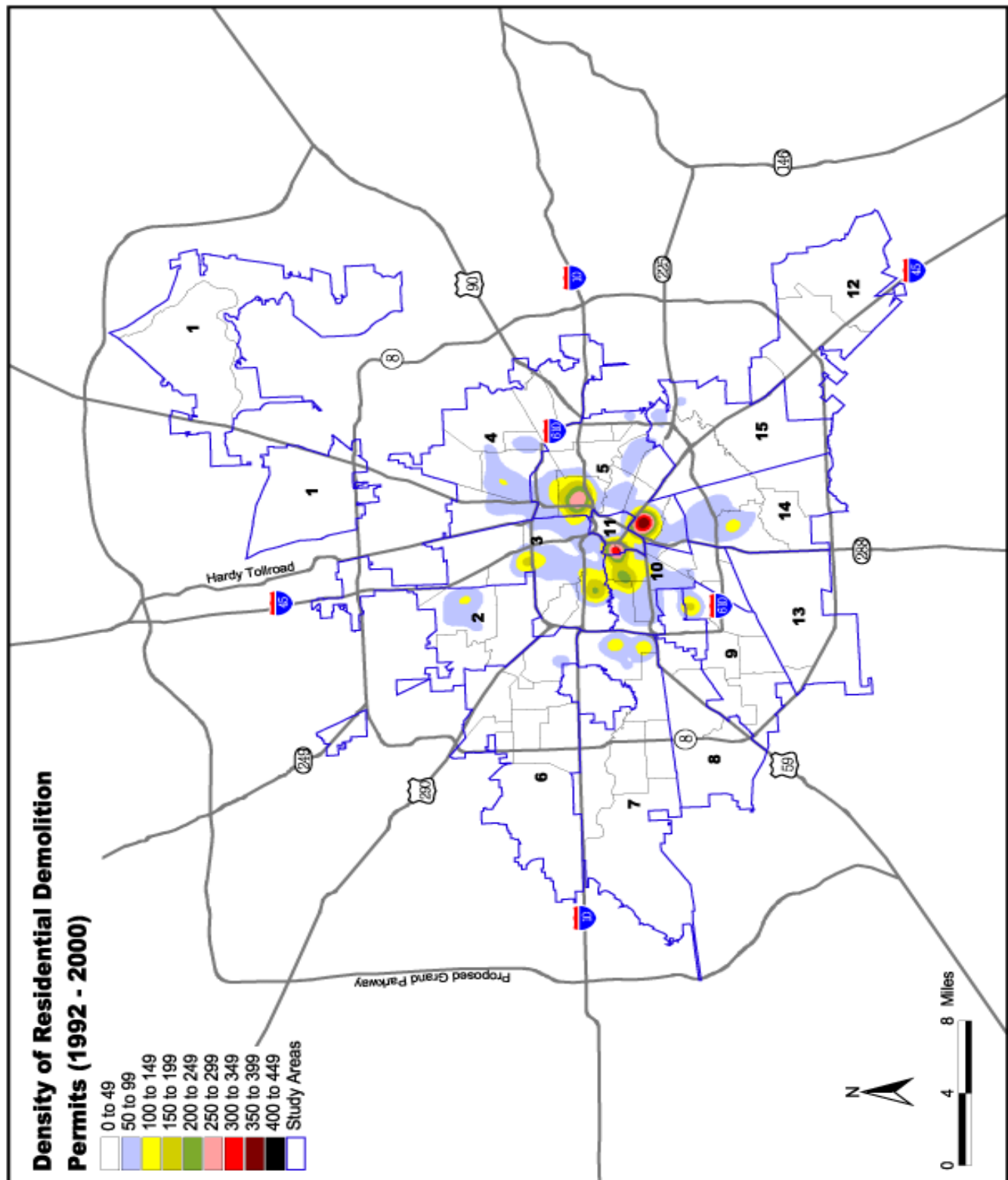
Demolitions and Housing Age

Five neighborhoods have the highest concentration of demolition permits per square mile: Greater Third Ward, Greater Fourth Ward, Greater Fifth Ward, Memorial / Washington, and Montrose. Each of these Super Neighborhoods has more than 40% of its housing stock constructed prior to 1960. Third Ward and Fifth Ward have greater than 60% constructed prior to 1960.

The Greater Fourth Ward and Memorial / Washington areas are unique because they also have among the highest number of homes constructed after 1990

in the city: 41% and 21% respectively. Greater Fourth Ward's rate is fourth highest in the City. Permits for new residential activity is most heavily concentrated in this area, which indicates that demolitions are taking place to allow for redevelopment. This is in stark contrast to the Greater Fifth Ward and Greater Third Ward, where very few permits for new construction offset the high concentrations of demolitions. Land values in these two Super Neighborhoods are at the lower end in the City.

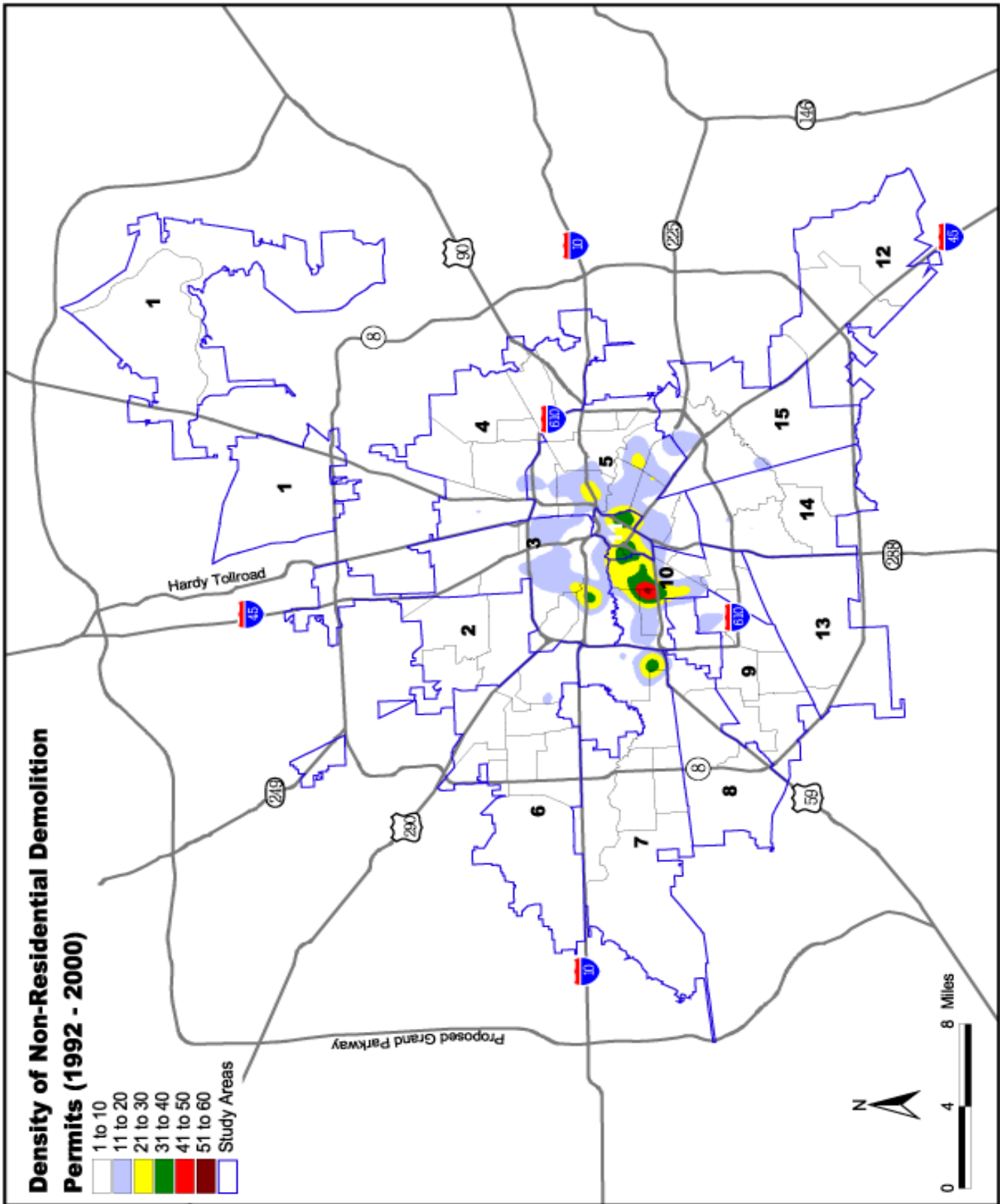
City-wide Land Use



Map 4.2.

Source: City of Houston Planning and Development Department

City-wide Land Use



Map 4.3.

Source: City of Houston Planning and Development Department

City-wide Land Use

Land Use Changes by Category (1990 – 2000)

Vacant Land

In 2000, vacant land occupied the highest acreage in the City, accounting for 24% (91,370 acres) of the total land area within City limits (See table below). About 1/5th of the total vacant land is in Study Area 1. About 10.6 percent is in Study Area 2, in the northeastern part of the city, and 10.4 percent is in Study Area 12, where most vacant land is around Ellington Field. Study Areas 6 and 13 also have a large percent, 9.6% and 9.3%, respec-

tively. Study Area 6 contains some large parcels north of Katy freeway in the Addicks Reservoir. Study Area 13 also has large vacant parcels along Almeda Road, Hwy 288 and Holmes Rd, south of the Loop 610. In general, vacant land inside Loop 610 tends to be small parcels interspersed with mixed uses. Towards the city boundaries, vacant parcels tend to be large, discontinuing the patterns of urbanization.

Table 4.7.
2000 Undeveloped/Vacant Land

Study Area	Acres	Percent of Land in Study Area
1	18,171	31.5%
2	4,889	21.7%
3	2,630	11.7%
4	9,721	43.2%
5	4,774	21.2%
6	8,729	38.8%
7	6,958	30.9%
8	2,455	10.9%
9	1,820	8.1%
10	1,757	7.8%
11	453	16.0%
12	9,480	42.1%
13	8,457	37.6%
14	6,300	28.0%
15	4,772	21.2%
City Total	91,367	24.0%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use

In 1990, 31.7% of total land area in the City was vacant land with heaviest concentrations in the Northeast, Kingwood, Clear Lake, and along Beltway 8 South (Study Areas 4, 12, 13, 14, 1, 12). There has been a 24.3%* decrease in vacant land since 1990.

Change in vacant land

More than 50% of the City's vacant land in 2000 was in Study Area 1 (North), 4 (northeast), 12 (south east), and 6 (west). Study Area 1, 12, 7, and 13 attracted most of the new development on vacant land. As indicated by building permit activity, 17% of all new construction occurred in SA 7, and included mostly Single Family Residential permits. In contrast, Study Area 3's growth was largely redevelopment – 11% of total new permits (2,762) but 15% of the total demolitions permits (1,795).

Change in property value of vacant land

Percentage change in value of vacant land highlights areas of growth and possible decline.

- Vacant land in the City experienced an average increase of 6.4% in value.
- Large tracts on the City's outskirts (north, northeast and south) have decreased in value.
- A large concentration of vacant land with declining values along SH 288 near the Beltway.

Single and Multi-Family Residential

Residential use occupies about 25% of the land in the City of which 21% is single-family use. Study Areas 4 and 7 have the highest acreage in the City of single-family residential uses. Except for Study Areas 10 and 11 (Downtown and Medical Center and south of Memorial in the Inner Loop), most other areas tend to have a fair distribution of single-family residential uses, ranging between 5% and 10% of the total area for this particular use, or between 5,000 and 8,000 acres per Study Area.

Table 4.8.
2000 Single-Family Land Use

Study Area	Acres	Percentage
1	6,340.0	43.3%
2	6,336.8	43.3%
3	7,148.8	48.8%
4	8,282.4	56.5%
5	4,914.5	33.6%
6	5,039.7	34.4%
7	8,236.8	56.2%
8	3,936.5	26.9%
9	5,888.0	40.2%
10	2,864.9	19.6%
11	88.4	0.6%
12	5,674.5	38.7%
13	4,581.2	31.3%
14	4,976.7	34.0%
15	5,491.6	37.5%
City	79,800.8	21.0%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land

About 42% of multi-family land uses, almost 14,650 of total city acreage are located in Study Areas 7 and 8. These areas are located south of Katy Freeway and west of Loop 610 to the City limits. Other concentrations of multi-family residential land are found along Fondren Rd

(Study Area 9), in Study Area 6 to the east of Beltway 8, and in the vicinity of Willowbrook Mall, Tidwell and Greens Road (Study Area 2).

Table 4.9.
2000 Multi-Family Land Use

Study Area	Acres	Percentage
1	242.2	1.7%
2	1,191.5	8.1%
3	578.8	4.0%
4	423.5	2.9%
5	384.8	2.6%
6	1,254.9	8.6%
7	3,721.6	25.4%
8	2,413.4	16.5%
9	1,320.7	9.0%
10	1,163.5	7.9%
11	45.7	0.3%
12	790.1	5.4%
13	173.1	1.2%
14	307.6	2.1%
15	636.9	4.3%
City	14,648.2	3.8%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

Change in Residential Land Use

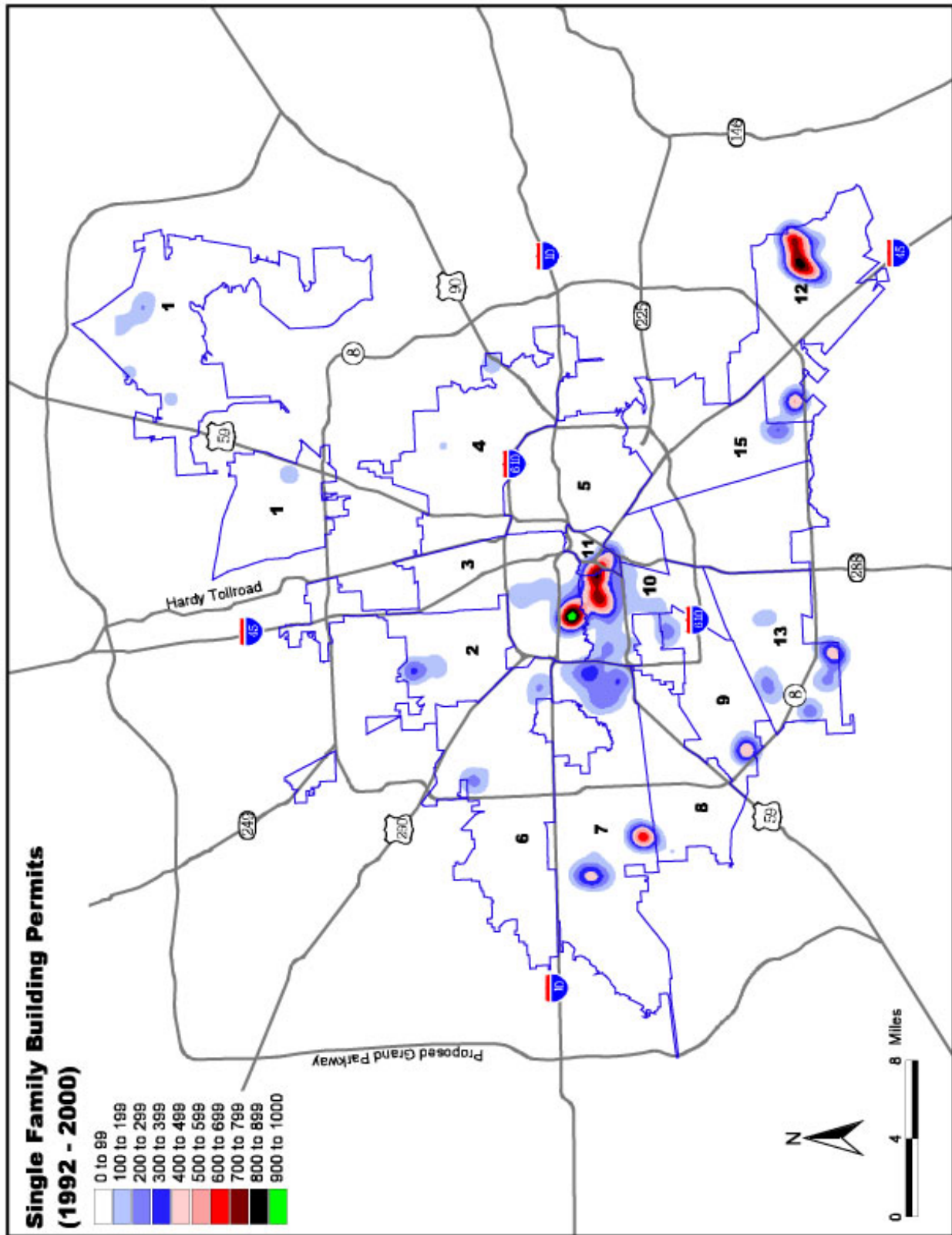
Study Areas 10 and 12 experienced the most rapid, single-family residential growth in the City. In Study Area 12, single-family units were built on raw land. In contrast, growth in Study Area 10 has tended to be associated more with redevelopment rather than addition of new housing units on undeveloped land.

Development of multi-family residential buildings (apartments and condominiums) was very rapid in Study Areas 10 and 7, primarily in the vicinity of Galleria, west of Downtown and Texas Medical Center. These complexes tend to be near commercial areas and major thoroughfares. In the period from 1992 to 2000, 120 complexes were added with more than 20,000 units in the two com-

bined Study Areas. Much of this growth was in the form of infill development on vacant parcels.

Permits for single-family residential construction accounted for 3/4ths of all permitting activity, followed by permits for commercial uses. Outside Loop 610, Super Neighborhoods west and far southeast areas in the City had the largest number of residential permits. Inside Loop 610, Super Neighborhoods west of Downtown had the largest residential permitting activity.

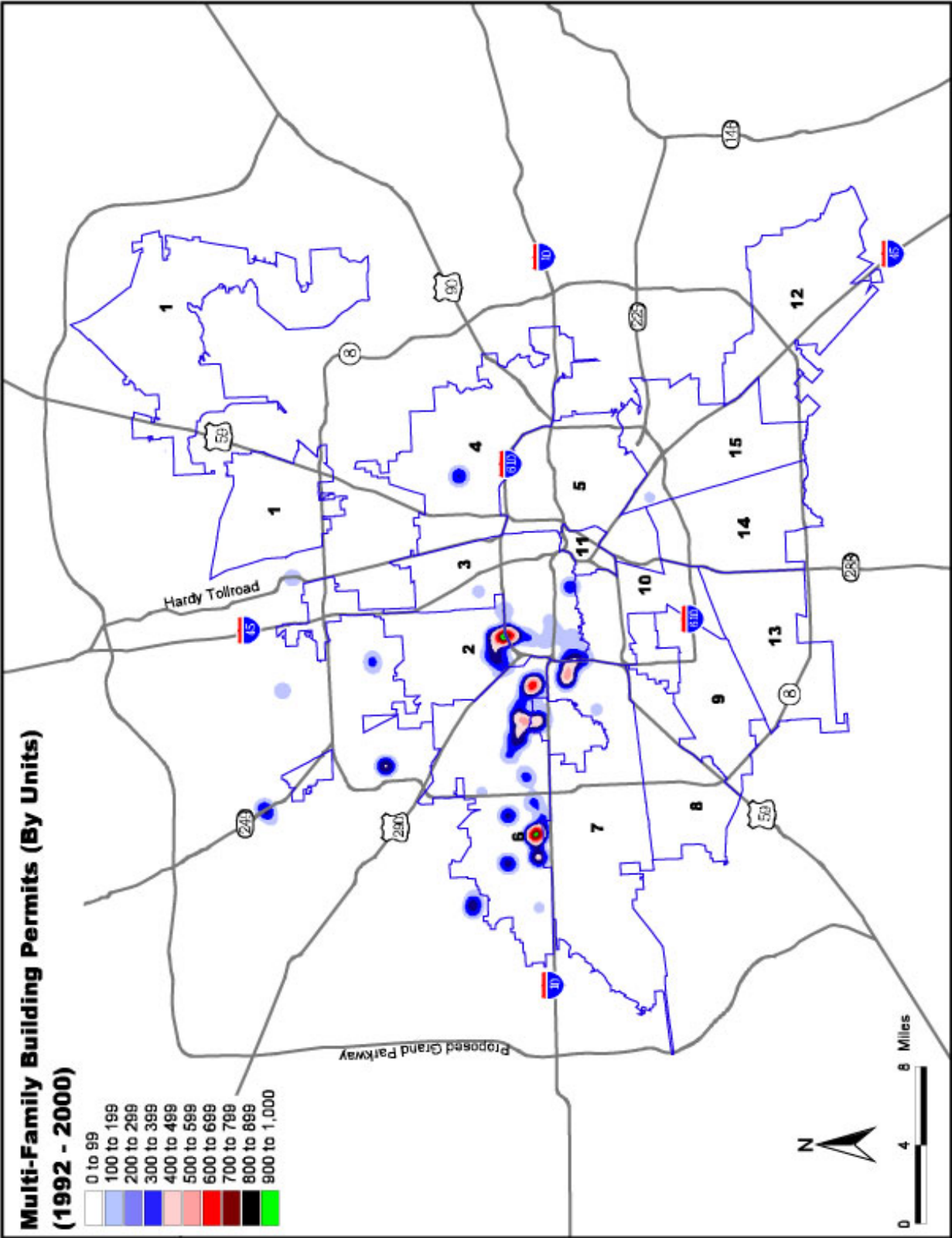
City-wide Land Use



Map 4.4.

Source: City of Houston Planning and Development Department

City-wide Land Use



Map 4.5.

Source: City of Houston Planning and Development Department

City-wide Land Use

Change in Residential property values

Percentage change in property value highlights areas of growth and possible decline.

- Residential land in the City experienced an average increase of 92% in value.
- Concentrations of parcels with large increases in property value tend to be to the north and west, and in the south along I-45.

Change in Residential Density

Houston's residential density increased slightly in the last decade. Single-family density increased by about 4%, but multi-family density decreased by nearly 10%. This is likely due to increase in the number of luxury apartments with square footage. See Table 4.9 below.

Table 4.10.
City of Houston Residential Density: 1990 and 2000

Category	1990	2000	Change
Net Residential Acreage	87,854	94,449	7.5%
Housing Units	716,508	782,015	9.1%
Net Density (units/acre)	8.16	8.28	1.5%
Net SFAcreage	75,598	79,801	5.6%
SF Housing Units	421,681	463,570	9.9%
Net Density (units/acre)	5.58	5.81	1.5%
Net MF Acreage	12,256	14,648	19.5%
MF Housing Units	294,827	318,445	8.0%
Net Density (units/acre)	24.06	21.74	-9.6%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

Change in Residential Building Types

Based on Census data, between 1990 and 2000, the number of housing units increased approximately 3%, from 758,000 to 782,000. However, the overall breakdown of housing unit types was virtually unchanged. In 2000, single-family detached housing made up 46.6% of the housing stock, an insignificant decrease from 46.7% in 1990. All other types of single-family housing also maintained about the same, or very-slightly-increased, share of the housing stock. Townhouses, for example, increased their share slightly, from 4.9% to 5.4%.

The only significant change in housing unit type was with multi-family properties (5- or more family). The proportion of housing units in properties with 50 or more units increased from 16.3% to 21.5%. This is likely due to recent multi-family construction, which are primarily larger apartment complexes with hundreds of units each.

Single-family detached housing units constitute 46.6% of the City of Houston's housing stock. The highest proportion of this housing type is in the lower-income neighbor-

City-wide Land Use

hoods of the east, northeast, and central south. Areas like Downtown, Uptown, and the Medical Center have comparatively few single-family detached houses. Meyerland, at the southwest corner of Loop 610, also has a high proportion of single-family detached houses in its housing stock.

Multi-family developments (apartments and condominiums) make up 40.7% of Houston's housing units. Their distribution is almost an exact mirror to that of the detached single-family houses. Most multi-family properties are located in a wedge extending westward from Downtown. Notable exceptions are in Greenspoint and Willowbrook, where majority of land is commercial, and very little residential development was included when these areas were annexed.

Single-family attached housing (town homes) and fee simple condominiums, although popular over the past few years, constitute only 5.4% of the City of Houston housing stock. They are typically of three groups: older row houses (as in the Ship Channel areas east of Downtown), 1970s-era town homes (Alief and Memorial), and newer infill development in Montrose, Uptown, and the Washington Avenue corridor. Even in these areas, townhouses never account for more than 17% of the housing units.

Two-to-four-family units (duplexes, fourplexes, and houses with garage apartments) are not nearly as common in Houston as in older cities. Such units make up 6.4% of Houston's housing stock. They are generally located in older neighborhoods immediately surrounding the central city. High concentrations may be found in Montrose, the area around Rice University, Third Ward, Eastwood, and Magnolia Park. There are lesser concentrations of multiplex units in the moderate-income suburban neighborhoods of Hunterwood in the northeast and Westwood in the southwest.

Construction Date of Residences

The majority of residential structures (64.2%) in the City of Houston were constructed between 1960 and 1990. Between 1960 and 1990, the City annexed 220 square miles of land, a substantial portion of which was vacant, especially to the east and southeast sections of the City. Neighborhoods in these areas were mostly constructed during this time frame.

Housing units constructed between 1990 and 2000 constitute 11.1% of the City's housing stock. Significant proportions of 1990s construction occurred in inner-city areas that underwent redevelopment, such as Midtown, Fourth Ward, and the Washington Avenue corridor, as well as in suburban areas such as Kingwood, Willowbrook, and the far west area near Addicks Reservoir.

Housing units built before 1960 make up 24.7% of the City of Houston. These are almost exclusively located in the eastern half of the City, in an arc from north-northwest to south-southeast, extending outward just beyond Loop 610. Houston Heights has the greatest concentration of pre-1960 housing, with over 80% of its units over 40 years old. More than 50% of housing stock in nearly every neighborhood east of Downtown pre-dates 1960.

City-wide Land Use

Industrial Land Uses

Industrial land uses constitute 6.8% of the total land acreage in Houston, totaling over 25,700 acres of land. In the western side of the city along the SH 290 corridor, industrial uses tend to be mostly warehouses for storage, assemblage and transportation. In the eastern side, industrial areas are older and include refineries and manufacturing and warehousing facilities. Chemical plant sites are interspersed with small manufacturing and assemblage facilities.

Four Study Areas contain more than 50% of the total industrial acreage in the City. Study Area 6 contains slightly more than 17% of the total industrial land area, located mostly along SH 290-Hempstead Rd Corridor. Study Area 5 has 15.8% of total land area in industrial use, located mainly along the Ship Channel and sections of Houston's East Side. Study Area 15 has 12% of land in industrial

use, located south of the Ship Channel and Turning Basin, and around Hobby Airport. Study Area 4 has 10% of industrial land, with large parcels located along Beaumont Highway and Wallisville Rd.

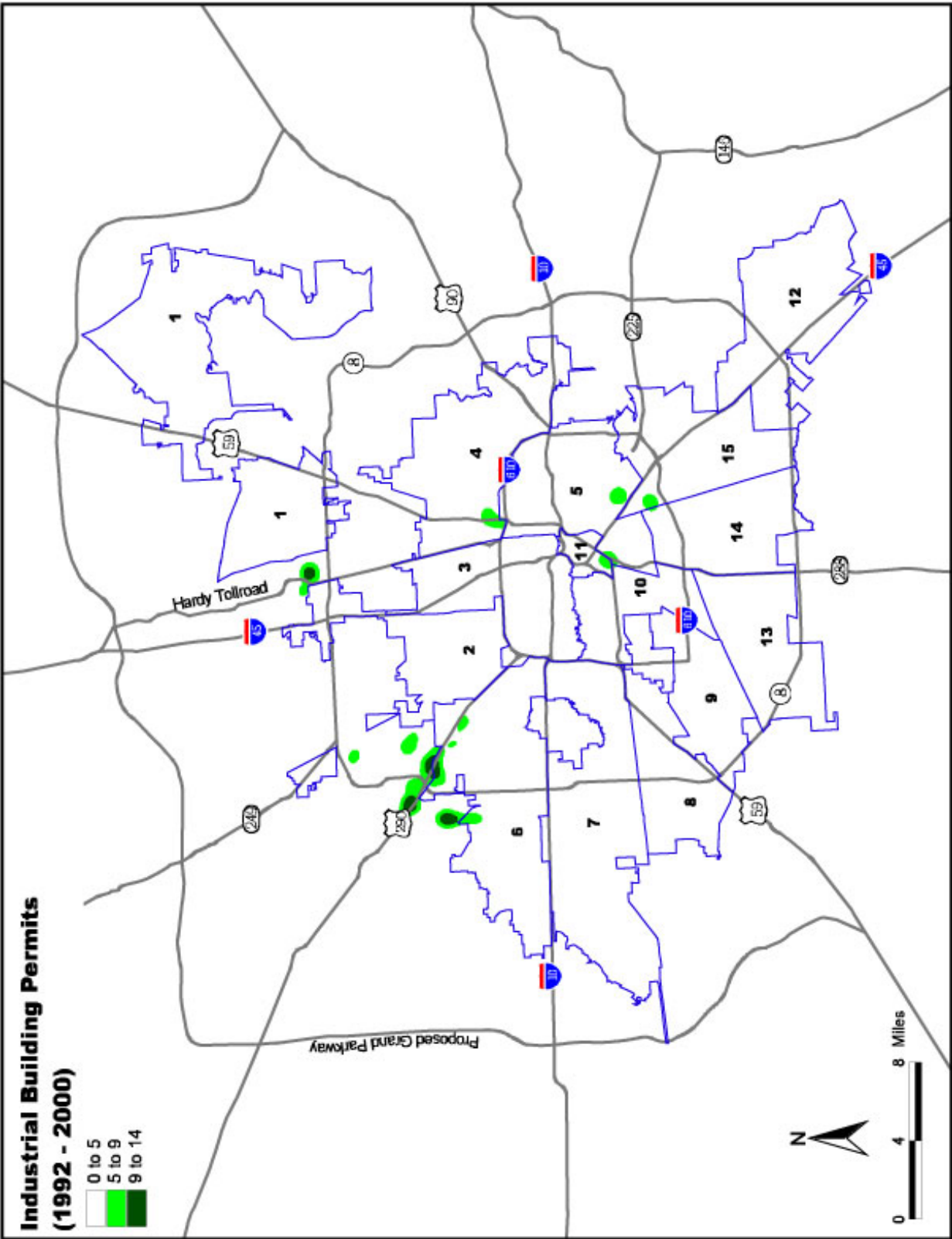
Industrial uses in Houston expanded by 4,400 acres to a total of 25,762 acres in 2000. Study Area 6 is the prime industrial area in the City with the greatest concentration of industrial uses. It experienced the highest growth, some of which is moving beyond Beltway 8. There were 124 new industrial buildings added at an average of 71,510 square feet per building. Study Areas 15 and 5 also added a high number of new industrial buildings, especially in the old industrial districts of Houston's east side and around Hobby airport. Buildings in these areas tend to be smaller than in Study Area 6, averaging about 20,000 square feet or less.

Table 4.1 I.
2000 Industrial Land Use

Study Area	Acres	Percentage
1	751.8	2.9%
2	1,688.1	6.6%
3	2,186.8	8.5%
4	2,585.9	10.0%
5	4,069.5	15.8%
6	4,409.2	17.1%
7	952.4	3.7%
8	1,241.7	4.8%
9	352.6	1.4%
10	677.4	2.6%
11	212.9	0.8%
12	1,113.5	4.3%
13	1,453.4	5.6%
14	943.5	3.7%
15	3,123.5	12.1%
City	25,762.2	6.8%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use



Map 4.6.

Source: City of Houston Planning and Development Department

City-wide Land Use

Commercial and Office Land Uses

Commercial and Office uses together account for about 20,200 acres or 5.3% of the total land area in the City. Commercial land use is 4%, most of it retail, hotels, parking and restaurants. Study Areas 7 and 8 in Houston's southwest have the most acreage in commercial/office uses. Together they have approximately 3,900 acres of commercial and 1,900 acres of office land located along Katy Freeway, Westheimer and Richmond Roads, US 59 and Bellaire Blvd. Study Area 7, which contains the Galleria and vicinity, has more office and commercial land (15.9% of all commercial and 28% of office) than any other Study Area.

Commercial uses are most often found along major corridors or in shopping malls. Office uses are generally located in office parks. These uses may be located in multi-story structures, therefore the acreage of land per use does not attest to the intensity of use or activity. For

example, office land use in downtown covers 2.6% of the total office land acreage in Houston, yet downtown is perhaps the most important office hub in the City, with many high-rise structures.

Commercial and office use together accounted for 3,900 acres of development between 1990 and 2000. Building permit data for new construction show commercial uses grew the most in west Houston. Commercial and office uses generally are located along major thoroughfares including Westheimer and Richmond and their vicinity in Study Areas 7 and 10. In Study Area 6, commercial and office uses have followed the impressive industrial growth along and around the US 290 corridor.

Table 4.12.
2000 Commercial Land Use

Study Area	Acres	Percentage
1	1,046.3	6.8%
2	1,428.5	9.3%
3	1,391.2	9.0%
4	942.4	6.1%
5	722.8	4.7%
6	1,194.1	7.8%
7	2,439.1	15.9%
8	1,455.1	9.5%
9	779.0	5.1%
10	1,030.3	6.7%
11	296.8	1.9%
12	866.9	5.6%
13	455.9	3.0%
14	400.8	2.6%
15	937.1	6.1%
City	15,386.3	4.0%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use

Table 4.13.
2000 Office Land Use

Study Area	Acres	Percentage
1	285.3	5.9%
2	402.2	8.4%
3	313.9	6.5%
4	88.7	1.8%
5	93.7	1.9%
6	377.8	7.9%
7	1,347.6	28.0%
8	528.8	11.0%
9	150.0	3.1%
10	582.7	12.1%
11	127.5	2.6%
12	299.6	6.2%
13	51.7	1.1%
14	23.7	0.5%
15	138.5	2.9%
City	4,811.82	1.3%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

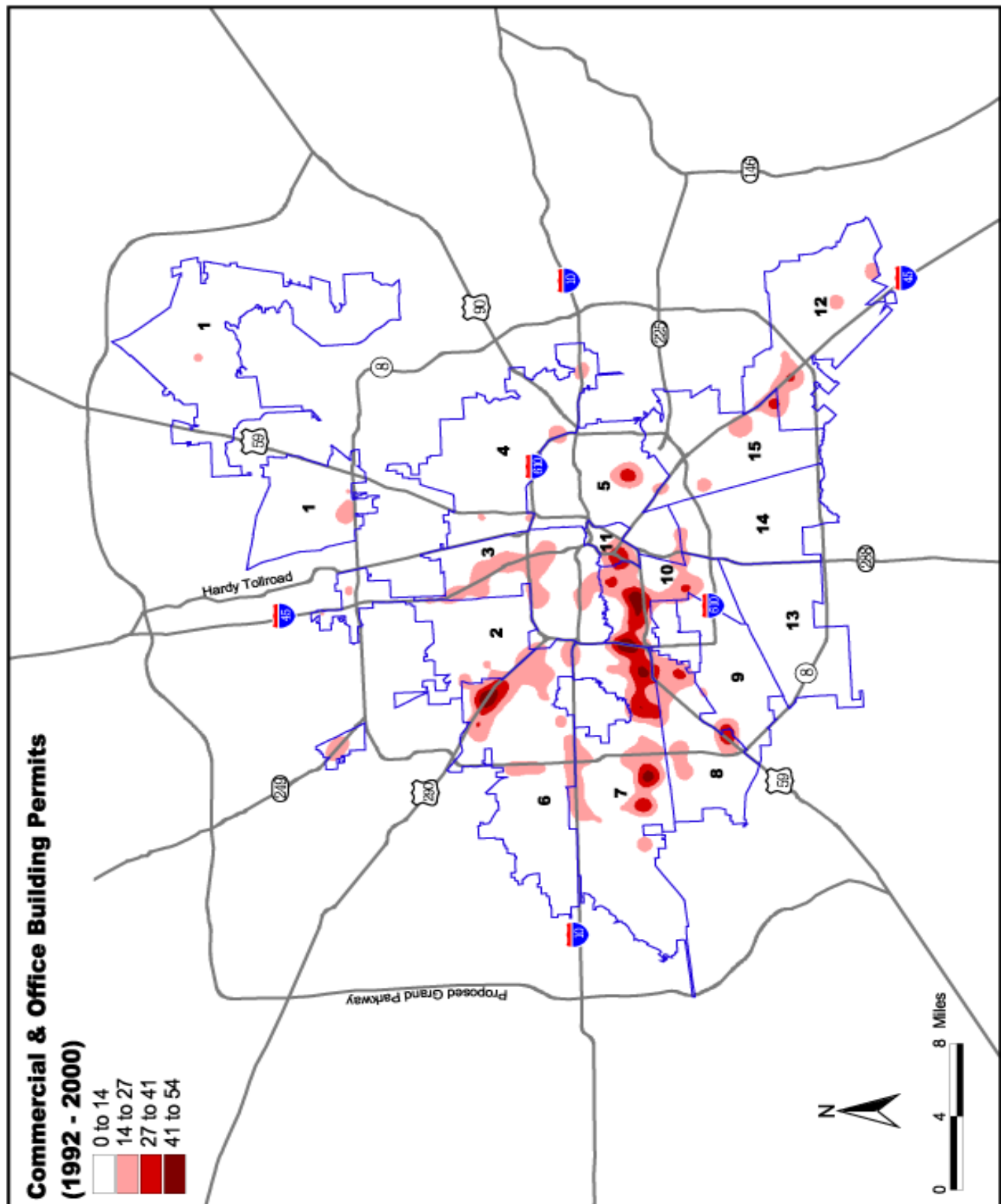
Table 4.14.
Average square footage of New Office Construction by Study Area: 1992-2000

Study Area	Average sq. ft. per Building	Rank
7	52,838	1
11	46,639	2
2	33,596	3
8	30,199	4
6	21,666	5
10	17,323	6
5	12,813	7
4	9,891	8
9	8,489	9
12	8,196	10
3	7,608	11
1	7,437	12
15	4,767	13
13	2,908	14
14	2,829	15

The table at the left ranks the Study Areas from high to low square footage of new office construction between 1992 and 2000. Study Areas 7 and 11 rank first and second, respectively, in amount of square footage added. Study Area 7 reflects construction in the Galleria and adjacent areas. Study Area 11 covers downtown which has only 2.6% of the total office land for the City, but between 1990 and 2000 the average square feet of new construction was more than 46,000 square feet per building.

Source: City of Houston Planning and Development Department

City-wide Land Use



Map 4.7.

Source: City of Houston Planning and Development Department

City-wide Land Use

Change in Property Value for Commercial/Office/Industrial parcels

Commercial/industrial/office properties, in general, experienced an average increase of 68.4% in property value. However, about 26% of all commercial/industrial/office properties lost value.

Of total industrial land, 39% declined in total taxable value. Most notable are generally large parcels with uses that include heavy manufacturing such as chemicals and allied products, petroleum refining and metal fabricating. This can probably be attributed to depreciation in improvement value of large facilities; land values were fairly stable in most cases. This trend is fairly common among industrial parcels throughout the City that have seen declines in total taxable value since 1990. In most cases, land values were stable or declined marginally, while improvement values declined. Although properties with declining values occurred throughout the City, a few noticeable clusters occurred near Hempstead highway, the Ship channel area along La Porte Freeway and Clinton Drive,

and west of Lockwood between Clinton and Navigation Roads.

In comparison, 25% of Commercial, Office parcels (which includes uses such as trucking and warehouses) declined in value. These declines occurred throughout the City, with no significant areas of concentration.

Public and Institutional Land Uses

Public and Institutional land uses account for almost 18,700 acres or 4.9% of the total land area in the City. The highest concentration of this land use is in Study Area 12, with more than 16% of the city total acreage in public and institutional uses. They include NASA's facilities and parts of Ellington Field. Study Area 10, which contains Houston Medical Center, also has a high concentration of these land uses with 9.8% of the total city acreage.

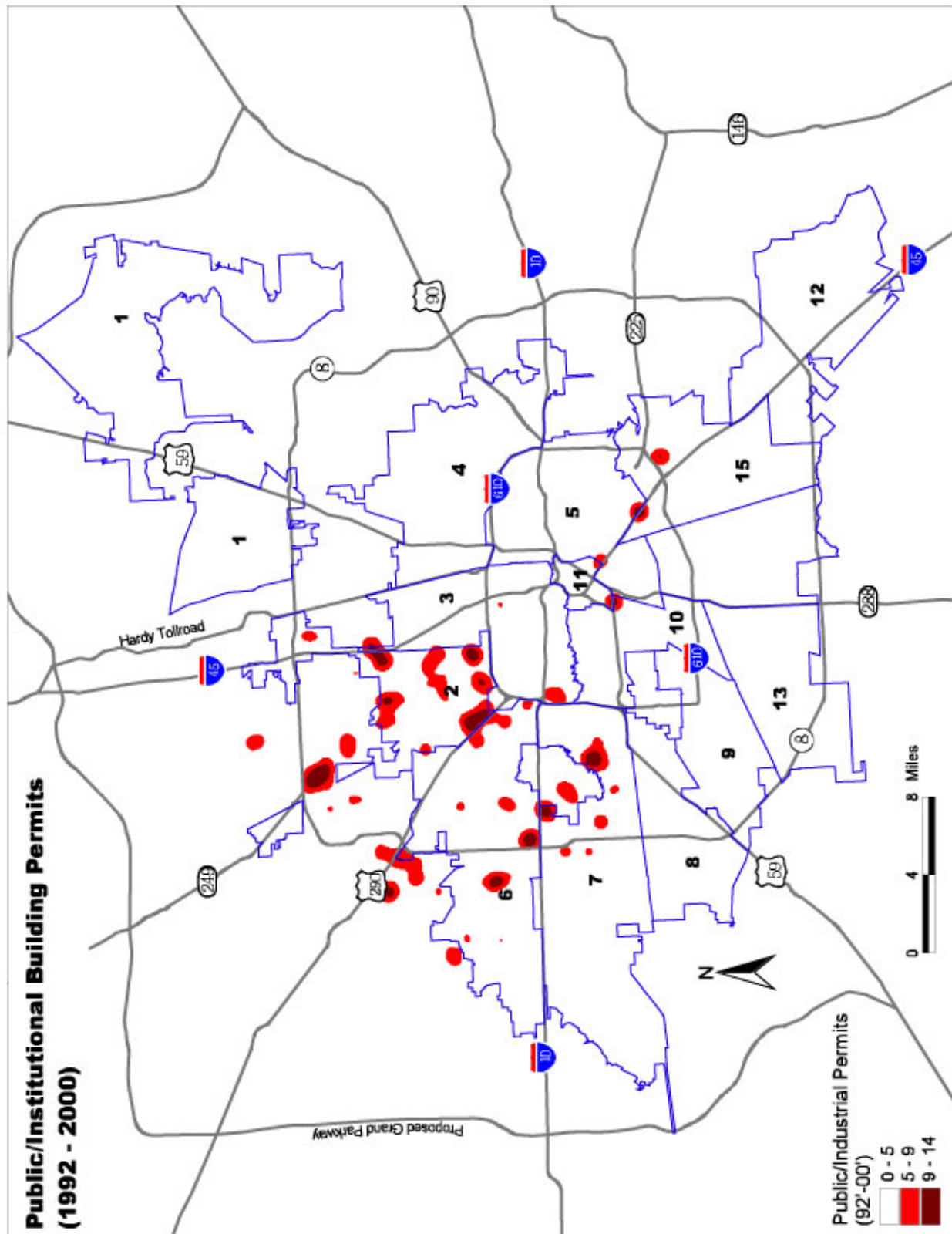
Permit information shows that Public and Institutional uses have grown at a high pace in Study Areas 7, 4 and 5 (check). This growth supports population and neighbor-

Table 4.15.
2000 Public/Institutional Land Use

Study Area	Acres	Percentage
1	958.4	5.1%
2	933.4	5.0%
3	1,030.7	5.5%
4	1,022.1	5.5%
5	1,747.0	9.4%
6	1,951.7	10.5%
7	1,071.2	5.7%
8	1,314.5	7.0%
9	782.5	4.2%
10	1,820.6	9.8%
11	285.5	1.5%
12	3,374.0	18.1%
13	523.4	2.8%
14	934.6	5.0%
15	918.8	4.9%
City	18,668.5	4.9%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use



Map 4.8.

Source: City of Houston Planning and Development Department

City-wide Land Use

hood needs more than that of businesses, as is indicated by construction of retirement communities, homeless shelters, church and church related uses, schools, health facilities and public works such as wastewater treatment plants. It is interesting to note that institutional uses increased very fast in Study Areas 4 and 5, which overall have shown sluggish growth, while in fastest growing Study Area 12, institutional and public uses increased at slow rate.

Surface Water

Surface water in Houston, a city of bayous, covers 3.7% of the land, slightly more than 13,900 acres. Most of this classification includes Lake Houston and San Jacinto River in Study Area 1 (about 93%), and a small portion of the Ship Channel and Buffalo Bayou (about 5%) in Study Areas 5 and 15. As explained in Appendix A (Data Expla-

nations and Limitations), these figures do not include a portion of the ship channel that was not assigned to a Super Neighborhood and was therefore excluded from these figures. If this area were included, the portion of the City covered by Surface water would be significantly higher.

Table 4.16.
2000 Open Water Acreage

Study Area	Acres	Percentage
1	12,953.6	93.2%
2	2.5	0.0%
3	9.8	0.1%
4	15.1	0.1%
5	372.4	2.7%
6	-	0.0%
7	84.5	0.6%
8	-	0.0%
9	-	0.0%
10	63.0	0.5%
11	22.2	0.2%
12	-	0.0%
13	74.6	0.5%
14	-	0.0%
15	307.6	2.2%
City	13,905.4	3.7%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use

Transportation and Utilities

Transportation and utilities include infrastructure and facilities such as bus and rail terminals, airports, pipelines and those required to provide basic services such as water, electricity and wastewater treatment. It does not include roads, which are a separate category. Transporta-

tion and Utilities land uses cover only 3.1% of the City's total land or almost 11,700 acres. Houston's airports take up more than 65% of the total acreage including Intercontinental, Hobby and Ellington Field, in Study Areas 1, 15 and 12.

Table 4.17.
2000 Transportation and Utilities Land Use

Study Area	Acres	Percentage
1	4,335.5	37.2%
2	322.1	2.8%
3	182.2	1.6%
4	729.8	6.3%
5	204.7	1.8%
6	405.6	3.5%
7	352.4	3.0%
8	438.8	3.8%
9	285.2	2.4%
10	149.0	1.3%
11	29.8	0.3%
12	1,282.9	11.0%
13	573.5	4.9%
14	374.5	3.2%
15	1,999.8	17.1%
City	11,665.9	3.1%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

Roads

Roads account for large proportion of the land in the City, about 15% (more than 56,000 acres). Study Area 1 has the lowest proportion of roads of all the Study Areas, accounted for by the fact that this area also has the largest amount land devoted to undeveloped, agricultural, and open water uses. Conversely, 41.3% of the highly urbanized Study Area 11, which includes Downtown and Midtown is made up of roads. Table 4.18 on the following page illustrates these figures.

Agriculture

Houston still has slightly more than 10,000 acres (2.6%) used mostly for grazing cattle and pastures. Most of the acreage (52%) is found around Lake Houston and San Jacinto River in Study Area 1. The remainder is located mainly in the southern edge of the city. Table 4.19 on the following page illustrates these figures.

City-wide Land Use

Table 4.18.
2000 Roads Land Use

Study Area	Acres	Percentage
1	3,889.9	6.9%
2	3,960.1	7.0%
3	5,683.3	10.0%
4	5,032.1	8.9%
5	5,372.0	9.5%
6	3,925.0	6.9%
7	4,919.3	8.7%
8	3,041.7	5.4%
9	3,207.3	5.7%
10	2,844.5	5.0%
11	1,168.9	2.1%
12	3,534.3	6.2%
13	2,641.9	4.7%
14	3,230.4	5.7%
15	4,108.7	7.3%
City	56,559.4	14.9%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

Table 4.19.
2000 Agriculture Land Use

Study Area	Acres	Percentage
1	5,228.4	52.2%
2	117.9	1.2%
3	16.7	0.2%
4	657.9	6.6%
5	-	0.0%
6	30.6	0.3%
7	0.2	0.0%
8	27.2	0.3%
9	5.0	0.0%
10	-	0.0%
11	-	0.0%
12	2,245.6	22.4%
13	764.3	7.6%
14	757.7	7.6%
15	165.9	1.7%
City	10,017.4	2.6%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department

City-wide Land Use

Parks and Open Space

Parks and open space are 8.8% or 33,500 acres of land in the City. Study Areas 6 and 7, together, occupy about 62% of the total City acreage, covering the extensive Addicks Reservoir in the western edge of the city.

Other areas with large amount of parks and open space include Study Area 3 (6.7% of total acreage), which includes Memorial Park, Study Area 1 with parks around the northern edge of Lake Houston (6.5% of total acreage), and Study Area 4 (5.1% of total acreage), which includes Hermann Brown Park.

Comparisons about park acreage between 1990 and 2000 cannot be made due to the fact that much of the land in this category was reclassified from one land use category to another.

Table 4.20.
2000 Parks and Open Space Land Use

Study Area	Acres	Percentage
1	2,160.8	6.5%
2	1,026.3	3.1%
3	2,256.8	6.7%
4	1,711.5	5.1%
5	742.4	2.2%
6	8,604.5	25.7%
7	11,336.7	33.9%
8	819.8	2.4%
9	993.7	3.0%
10	362.6	1.1%
11	82.1	0.2%
12	988.3	3.0%
13	915.7	2.7%
14	967.0	2.9%
15	514.4	1.5%
City	33,482.6	8.8%

Source: Harris County Appraisal District (HCAD)
Compiled by City of Houston Planning and Development Department